



## SOURCE AREA 7 FEASIBILITY STUDY AND PROPOSED PLAN

### Southeast Rockford Groundwater Contamination Superfund Project

#### Purpose Of This Fact Sheet

This fact sheet describes the feasibility study (alternative remedies) and the proposed plan for controlling one of the four major source areas, Source Area 7, of the Southeast Rockford Groundwater Contamination Superfund project. Fact sheets describing the alternatives and proposed plans for the other three major source areas are available from the information sources listed on the back of this fact sheet. Source area control was one part of the overall groundwater remedy chosen in 1995. Other components of the groundwater remedy are described on page 6.

The Illinois Environmental Protection Agency (Illinois EPA) identified 14 study areas as possible sources of contamination. After several years of study, the Illinois EPA identified four of these study areas (Areas 4, 7, 9/10 and 11) as the major sources of *groundwater* contamination in this project. These study areas, therefore, were renamed Source Areas 4, 7, 9/10 and 11.

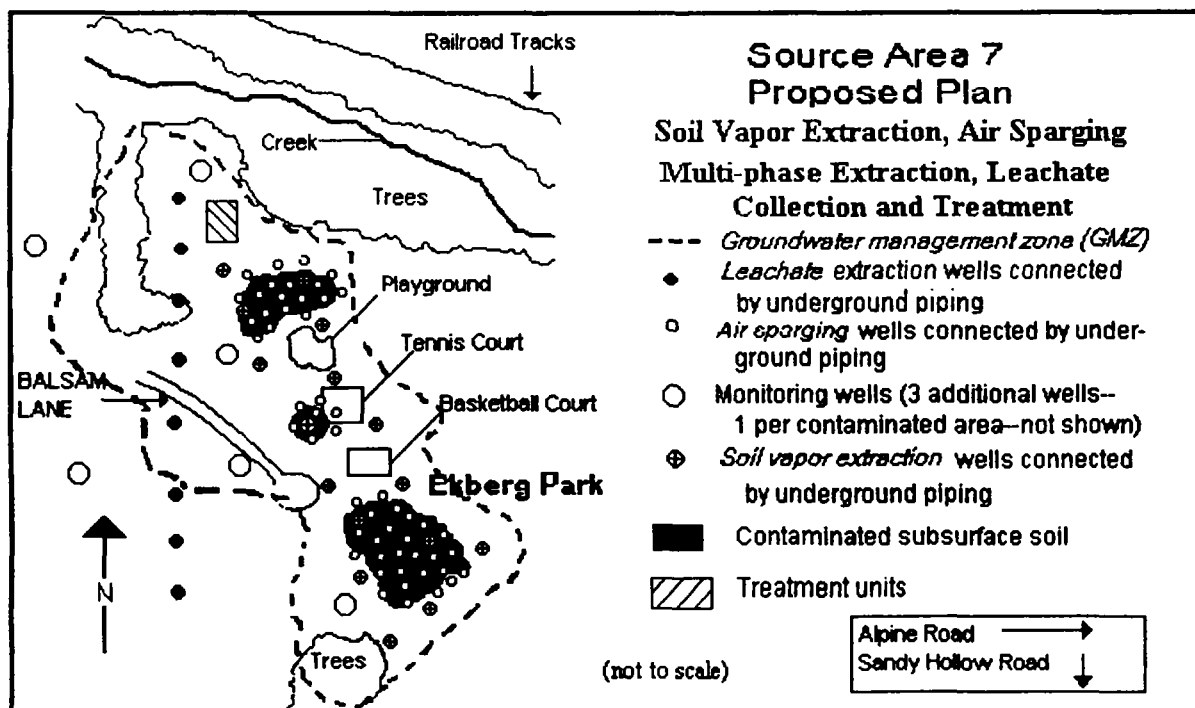
#### What is the Source Area 7 proposed plan?

The Illinois EPA and the U.S. Environmental Protection Agency (U.S. EPA) divided the possible remedies for each source area into remedies for the soil and remedies for the *leachate*. For Area 7, the agencies studied five possible remedies for soil (Table 1) and three possible remedies for *leachate* (Table 2.)

**What is Source Area 7?** Source Area 7 is a former unregulated disposal area located north and east of Balsam Avenue in southeast Rockford. It now consists of Ekberg Park, fields and open land. (See map below).

When the project began, the sources of *groundwater* contamination in southeast Rockford were unknown.

Of these remedies, the agencies propose *soil vapor extraction* and *air sparging* (Alternative SCS-7E) for soil and multi-phase extraction and *leachate* containment (alternative SCL-7B) for *leachate*. The public is invited to comment on all of the alternatives.



**Table 1**  
**SOIL ALTERNATIVES**  
**Source Area 7**

<b>Alternative</b>	<b>Summary description</b>	<b>Time*</b>	<b>Cost</b>
<b>SCS-7A</b> No Action	No action.	80-90 years	None
<b>SCS-7B</b> Limited Action	<b>Institutional controls.</b> <i>Institutional controls</i> would be placed on the property restricting use and access to the property until <i>remediation goals</i> are met.	80-90 years	\$275,000
<b>SCS-7C</b> Ex-Situ Biological Treatment	<p><b>Soil excavation.</b> An estimated 57,000 cubic yards of soil, waste and <i>free product</i> would be excavated and dewatered. Due to the levels of <i>volatile organic compounds (VOCs)</i>, a temporary enclosure would be installed over the excavation to contain vapors.</p> <p><b>Treatment of vapors from enclosure.</b> Vapors from the excavation would be collected and treated by granular activated carbon before being released into the air.</p> <p><b>Dewatering.</b> Since a majority of the contaminated soil is below the water table, wells would be installed to lower the water level. The extracted water would be transported offsite to an appropriate disposal facility.</p> <p><b>On-site biological treatment of excavated material.</b> Excavated soils would be placed on high-density polyethylene liners with a layer of sand above and one beneath the liner. The piles would be approximately six feet tall and 16 feet in diameter at the base. The contaminants in the soil would be treated by microbes naturally occurring in the soil. Adding water and nutrients and using a mechanical mixer to mix in air and to mix the microbes throughout the waste material would create the best growing conditions for the microbes. Treated soil meeting <i>remediation goals</i> would be returned to the excavation hole.</p> <p><b>Leachate collection.</b> <i>Leachate</i> from the piles would be collected and recycled over the soil piles to provide water to the pile and allow the contaminants in the water to be broken down by the naturally occurring microbes.</p>	Biological treatment of soil would take approximately 5 years. <i>Leachate</i> would meet <i>remediation goals</i> in 15 – 25 years.	\$18,218,000
<b>SCS-7D</b> Excavation, On-site Treatment by Low Temperature Thermal Desorption (LTTD)	<p><b>Institutional controls,</b> as described in SCS-7B, except a restriction on excavation would be unnecessary since the contaminated soil would be removed in about eight months.</p> <p><b>Soil excavation.</b> An estimated 57,000 cubic yards of soil, waste and <i>free product</i> would be excavated and dewatered. Due to the levels of <i>VOCs</i> expected to be released during excavation, a temporary enclosure would be installed over the excavation to contain vapors.</p> <p><b>Dewatering.</b> As described in SCS-7C.</p> <p><b>Low temperature thermal desorption.</b> Excavated soil would be treated on-site in a mobile <i>low temperature thermal treatment desorption (LTTD)</i> unit. This unit would heat the soil to about 900°F to volatilize (vaporize) the <i>VOCs</i> off the soil. The contaminant vapors from the soil would be directed to (1) a baghouse where particulates such as dust would be removed, then to (2) an afterburner where vapors would be heated to 1400° to</p> <p align="right">(Continued on next page)</p>	Treatment of soil by the <i>LTTD</i> would take approximately eight months. The <i>leachate</i> would meet goals in 10-20 years.	\$15,209,000

**Table 1**  
**SOIL ALTERNATIVES**  
(Continued)  
**Source Area 7**

<b>Alternative</b> (Continued)	<b>Summary description</b>	<b>Time*</b>	<b>Cost</b>
<b>SCS-7D</b> Excavation, On-site Thermal Treatment	<p>1800°F. This high temperature would break the <i>VOCs</i> into harmless chemicals such as water vapor and carbon dioxide plus hydrochloric acid. A <i>scrubber</i> would treat the hydrochloric acid forming water and salt, and the <i>scrubber</i> water (pH adjusted to normal levels) discharged to a nearby drainage ditch. See enclosed fact sheet on <i>LTTD</i>.</p> <p><b>Air monitoring.</b> Air emissions from the unit would be monitored to ensure all air quality standards are met.</p> <p><b>Treated soil returned to excavation hole.</b> The treated soil would be tested to verify that it meets <i>the remediation goals</i>, cooled and rehydrated (moisture normal for soil added). Soil meeting the <i>remediation goals</i> would be returned to the excavation hole.</p>	Previous page	Previous page
<b>SCS-7E</b> Soil Vapor Extraction  ◆	<p><b>Same as SCS-7B plus the following:</b></p> <p><b>Soil vapor extraction.</b> Sixteen vacuum extraction wells would be constructed in the contaminated area. Since <i>VOCs</i> volatilize easily, suction on the system would withdraw the vapors from the air pockets beneath ground surface</p> <p><b>Air sparging injection well system.</b> Air would be injected into the soil and <i>leachate</i>, increasing the amount of <i>VOCs</i> that would vaporize into the air pockets in the soil above the water table.</p> <p><b>Catalytic oxidation.</b> The vapor from the <i>soil vapor extraction</i> system would be directed to a <i>catalytic oxidation</i> unit. This unit would break the <i>VOCs</i> into harmless compounds such as water vapor and carbon dioxide plus hydrochloric acid. A <i>scrubber</i> would treat hydrochloric acid to form water and salts, and pH adjusted water discharged to a nearby drainage ditch. See enclosed fact sheet on <i>catalytic oxidation</i>.</p> <p><b>Air monitoring.</b> Air emissions from the unit would be monitored to ensure all air quality standards are met.</p>	15-25 years	\$5,624,000
Time to reach <i>remediation goals</i> .			
◆ Illinois EPA and U.S.EPA propose this alternative for the Source Area 7 soil remedy.			

### What are the main contaminants at Area 7?

The main Area 7 contaminants are industrial solvents containing chlorine. The solvents are in a class of chemicals called volatile organic compounds (*VOCs*). The chemicals are called "volatile", because they vaporize (evaporate) rapidly and "organic" because they contain carbon.

Analyses of Area 7 soil samples indicate some chemicals may be present in high enough concentrations that they are not dissolved in the *groundwater*. Chemicals undissolved in water are called *non-aqueous phase liquid (NAPL)*. Sometimes *NAPL* is called *free product*. The enclosed "Remedial Investigation" fact sheet has more information about Area 7 contamination.

**What is *leachate*?** "*Leachate*" is water that passes through waste and picks up contaminants. In this fact sheet, "*leachate*" refers to all the highly contaminated *groundwater* within the *groundwater management zone (GMZ)* of the Area 7.

**What is the *groundwater management zone (GMZ)*?** The *GMZ* is the area of contaminated *groundwater* that will be treated by the Area 7 *leachate* remedy. The map on page one shows the *GMZ* boundary. The *groundwater* beyond the *GMZ* will be treated by *natural attenuation* as specified in the *groundwater* remedy described on page 6.

Italicized words and acronyms are discussed in the "Terms" section beginning on page 6.

**Table 2  
LEACHATE ALTERNATIVES  
Source Area 7**

<b>Alternative</b>	<b>Summary description</b>	<b>Time*</b>	<b>Cost</b>
<b>SCL-7A</b> No Action	<b>Institutional controls.</b> A restriction would be placed on the property limiting use and access to the property until <i>remediation goals</i> are met. <b>Groundwater monitoring.</b> <i>Groundwater</i> would be monitored through a system of nine monitoring wells until drinking water standards are met at the <i>GMZ</i> boundary.	80-90 years	\$347,000
<b>SCL-7B</b> Limited Actions, Multi-Phase Extraction, Leachate Containment	<b>Same as SCL-7A plus the following:</b> <b>Multi-phase extraction.</b> A vacuum would be applied to a series of extraction wells. The vacuum would collect soil vapors, <i>free-product</i> and <i>groundwater</i> . (Vapors, <i>free product</i> and water are different "phases"—thus, the term multi-phase extraction). <b>Leachate containment.</b> <i>Leachate</i> would be collected through eight containment wells constructed at the of Source Area 7 boundary to prevent the <i>leachate</i> from moving past the <i>GMZ</i> boundary. <b>Air stripping.</b> Since the contaminants are volatile (they vaporize easily), they can be removed from the <i>leachate</i> by exposing the <i>leachate</i> to air and letting the contaminants evaporate. This process is called <i>air stripping</i> . <b>Catalytic oxidation unit.</b> <i>VOCs</i> collected from the air stripper and from the multi-phase extraction unit would be treated by a <i>catalytic oxidation</i> unit as described in Alternative SCS-7E. <b>Air monitoring.</b> Discharges to the air would be monitored to ensure that they meet all federal and state laws and requirements. <b>Water monitoring.</b> After the contaminants are removed from the <i>leachate</i> , the remaining water would be discharged to the ditch. The water would be monitored to ensure it meets all federal and state standards and requirements.	30-40 years	\$2,637,000
<b>SCL-7C</b> Reactive Barrier Wall/ Leachate Monitoring	<b>Same as alternative SCL-7A plus:</b> <b>Reactive barrier wall.</b> This wall would be constructed beneath ground surface <i>downgradient</i> of the <i>GMZ</i> boundary. The wall would consist of permeable iron filings. As <i>groundwater</i> flows through the iron, a chemical reaction would take place that breaks the <i>VOCs</i> down into harmless compounds.	1-10 years. The wall would have to be maintained approximately 80-90 years	\$4,391,000

\* Time to reach *remediation goals*

◆ Illinois EPA and U.S.EPA propose this alternative for the Source Area 7 *leachate* remedy.

### What is the purpose of the Area 7 remedy?

The remedy has several purposes including:

- to stop ongoing contamination of the *groundwater* by Area 7 waste, thus protecting the water resource for further generations;
- to ensure that *VOCs* in soil gas do not move into basements of nearby residences;
- to protect people from ingestion of produce grown in contaminated soil in the park. See map on page 1.
- to reduce the potential for people to come into

direct contact with contaminated soil and *free product* beneath the ground surfaces; and

- to comply with the 1995 Record of Decision for the project that required *groundwater* contamination sources be controlled.

**How are the remedies evaluated?** The federal *Superfund* law specifies the following nine criteria for evaluation of remedies. They are: (1) Overall protection of human health and the environment, (2) compliance with relevant state and federal law, (3) long-term effectiveness and permanence, (4) reduction

of toxicity mobility or volume of contaminants through treatment, (5) short-term effectiveness, (6) implementability, (7) cost, (8) state acceptance and (9) community acceptance.

### **Why do the Illinois EPA and the U.S. EPA prefer alternatives SCS-7E and SCL-7B for Area 7?**

*Soil vapor extraction, air sparging and multi-phase extraction substantially reduce risks by (1) treating the contaminants in the soil, thus protecting human health and the groundwater. (2) These alternatives comply with all federal and state laws. (3) They would remove free product and the contamination from soils contributing to site-wide groundwater contamination. (4) Since the contaminants are destroyed, the solution is permanent and reduces toxicity. (5) The alternatives are cost effective and implementable.*

### **What are the Area 7 remediation goals?**

*Remediation goals are cleanup objectives that must be reached before the remedy will be considered complete. The soil goal is based on State of Illinois guidelines (called the Tiered Approach to Corrective Action Objectives or TACO) for residential soil and protection of groundwater.*

*The leachate goal is the federal drinking water standards at the GMZ boundary. The groundwater beyond the GMZ boundary is being treated by natural attenuation, which is the remedy chosen for area-wide groundwater in 1995. For more information on the 1995 Groundwater Remedy, see page 6).*

## **Commonly Asked Health Questions**

**Is my water safe to drink?** Your drinking water is safe, if you are connected to the Rockford Public Water Supply. The City of Rockford routinely tests its supply for possible contaminants. Water that fails to meet U.S. EPA drinking water standards is not distributed to the public.

**Is Pine Manor Subdivision built on an old disposal area?** No. Old aerial photographs and Illinois EPA test results confirm that the western boundary of the old disposal area is located several hundred feet east of the Pine Manor Subdivision.

### **Will vapors from the chemicals in the disposal areas move into my basement?**

Present information indicates that it will not. The Illinois Department of Public Health (IDPH) and the Illinois EPA tested the basement air in several homes around Area 7 in 1992 and 1993. IDPH concluded that

the concentrations detected in basements near Area 7 were below levels of health concern. Since many of these chemicals are found in household products such as paints and glue, the source of detected levels could not be determined.

The U.S. EPA and Illinois EPA plan to repeat sampling of several homes near Area 7 during the design phase of the remedy—probably in 2001. These tests will make sure that levels have not increased and will provide data for U.S. EPA to compare to guidelines they are currently using.

### **Is it safe for children to play in the park?**

Yes. Illinois EPA samples showed that the major contamination is several feet below the ground surface. Illinois EPA evaluation of surface samples showed no contamination at levels of concern for people using the park.

## **Next Steps**

### **How is the final remedy decision made?**

After the public comment period has ended, the Illinois EPA and U.S. EPA will carefully consider all written comments received during the entire comment period plus the oral comments made at the hearing. Based on the consideration of these comments, the Illinois EPA and U.S. EPA will make a final decision on the Area 7 remedy as well as the remedies for the other three major source areas. The Illinois EPA will notify the public of the final decision in a document called The Record of Decision. The Illinois EPA will also summarize the public comments received and the agencies' responses to these comments in a responsiveness summary.

**Who will pay for the remedy?** The State of Illinois and the U.S. Department of Justice have signed a consent decree with the City of Rockford. In this consent decree, the City of Rockford agreed to pay \$5 million toward the construction and maintenance of the Area 7 remedy. In exchange for this agreement, the State of Illinois and the U.S. Department of Justice agreed to release all potentially responsible parties from further liability at Area 7. Any cost over \$5 million will be paid out of the federal *Superfund* and the Illinois Hazardous Waste Fund.

**When will the remedy be constructed?** The Illinois EPA and the U.S. EPA plan to begin designing the remedy this summer or fall and start construction in the late 2001 or early 2002.

## The Groundwater Remedy

In 1995, after carefully considering public comment, the Illinois EPA and the *U.S.EPA* chose a remedy for the area-wide *groundwater* (*groundwater* outside the *groundwater* management zones of the four major source areas). The City of Rockford (with *U.S.EPA* oversight) began implementing the *groundwater* remedy in 1998. The 1995 *groundwater* remedy includes the following:

- Rockford Public Water Supply connection for all properties with private drinking water that are in an area predicted to be affected by the contaminated *groundwater* within the next 70 years (65 years from present).
- Continued treatment of Rockford Municipal Well #35 with granular activated carbon.
- Monitoring of the contaminated *groundwater* plume and, if necessary, connecting additional properties to the Rockford Public Water Supply, if they are threatened by contamination.
- Treatment of the *groundwater* by *natural attenuation*. *Natural attenuation* is a process by which contaminants are broken down by naturally occurring microbes in the soil or by other natural processes.
- Control of the four major source areas. This fact sheet describes possible remedies and the proposed plan to control source Area 7. Fact sheets describing proposed remedies for the other three source areas can be obtained from information sources listed on the back of this fact sheet.

## Terms

**Air stripping.** A method of removing volatile chemicals (chemicals that vaporize easily) from water. Often, air stripping consists of letting water fall over a distance in a confined area, exposing the volatile chemicals to air and thus allowing them to evaporate. Usually the vapors from an air stripping system are collected and treated before being released into the atmosphere.

**Air sparging.** A method of removing volatile organic compounds (chemicals that vaporize easily) from groundwater. During the process, air is forced into groundwater. Volatile chemicals then vaporize or move into the air bubbles. The air bubbles move with the chemical up to the air pockets in the soil above the groundwater (water table). Usually air sparging is accompanied by a system such as soil vapor extraction where the vapors (with the chemicals) are collected and treated.

**Catalytic oxidation.** A method of removing volatile organic compounds from vapors. See enclosed fact sheet.

**Downgradient.** The direction water flows. Water flows "downhill" or downgradient.

**Free product.** See NAPL.

**Groundwater.** Water beneath the ground surface

Italicized words are discussed in the "Terms" section beginning on this page.

## **Terms**

**(Continued)**

**GMZ (Groundwater management zone).** An area of contaminated groundwater that will be treated by the Area 7 leachate remedy. The goal of the Area 7 leachate remedy will be met when groundwater at the GMZ boundary meets federal drinking water standards. The groundwater outside the GMZ will be treated by natural attenuation as described on page 6. The map on page 1 shows the boundary of the GMZ for Area 7.

**Institutional controls.** An administrative or legal constraint that limits land or resource use. Controls could include zoning restrictions, city ordinances, easements, covenants, consent decrees, notices on deeds or state registries.

**Leachate.** Water that has passed through waste and picked up contaminants present in the waste. In this fact sheet, the term leachate refers to all contaminated groundwater within the Area 7 groundwater management zone boundary.

**LTTD (low temperature thermal desorption).** A method of removing volatile organic compounds from soil. See enclosed fact sheet on low temperature thermal desorption.

**NAPL (non-aqueous phase liquid).** Free product. When a contaminant is present in high enough concentrations in groundwater, it does not dissolve in the water. Rather, if it is lighter than water (like oil), it will float on top of the water. If it is heavier than water, it will sink through the water until it comes to a barrier such as rock or clay.

**Natural attenuation.** A natural process. Either naturally occurring microbes in the soil break down the contaminants into harmless components, or the contaminants become adsorbed (attached) to soil particles preventing them from moving into the groundwater. Groundwater beyond the GMZ boundary will be treated by natural attenuation alone and will meet drinking water standards in an estimated 200 years.

**Reactive barrier wall.** An underground trench filled with a reactive substance such as iron filings. As groundwater moves through the wall, contaminants such as VOCs react with the iron to form non-toxic compounds. During the wall construction, two jetting wells would be installed within the iron filings. These wells would allow for rejuvenation (renewal) of the iron media by flushing out solids or biological growth that could clog the reactive wall.

**Remediation goals.** Cleanup objectives. Remediation goals determine the amount of contamination that must be removed before the remedy is considered complete. For example, the leachate remediation goal at the groundwater management zone boundary for trichloroethylene is five parts per billion. (Five parts per billion is the federal drinking water standard.) The remedy for leachate will not be considered complete until the groundwater is cleaned to the point where no more than five parts per billion trichloroethylene remain at the groundwater management zone boundary.

**Scrubber.** An air pollution control device that treats acidic compounds in gas (such as hydrochloric acid) prior to the release of the gas into atmosphere. Some scrubbers use dry materials such as calcium carbonate while others use water to remove acid gases.

**SVE (Soil vapor extraction).** A method of removing volatile organic compounds from contaminated soil and groundwater. Soil vapor refers to the air in spaces between soil particles beneath the ground. These spaces are called soil pores. Since the nature of VOCs is that they vaporize easily, they will vaporize from contaminated groundwater or soil into the soil pores. In SVE, these vapors are sucked out of the soil pores.

## **Terms**

**(Continued)**

and usually pumped to the surface. The vapors are directed into a liquid vapor separator. The liquid is collected and sent off-site for proper treatment/disposal. The vapors are usually treated and released into the atmosphere. When the VOC vapors are removed from the soil pores, more VOCs vaporize from the contaminated soil or groundwater into the pores. These vapors, in turn, are extracted by the SVE system thus gradually reducing the amount of VOC contamination in the soil or groundwater.

**Superfund.** The common name given to sites on the National Priorities List (NPL). The NPL is a list of the nation's most serious hazardous waste sites that are eligible for investigation and, if necessary, a remedy under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), sometimes called the Superfund law. The Southeast Rockford Groundwater Contamination project was placed on the NPL in 1989.

**U.S. EPA.** The United States Environmental Protection Agency.

**VOCs (volatile organic compounds).** Volatile means the compounds vaporize (evaporate) readily under normal conditions. The compounds are called organic because they contain carbon.

## **For More information**

**Contacts.** You may contact Virginia Wood, Illinois EPA community relations coordinator, or Jerry Willman, Illinois EPA project manager, 1021 North Grand Ave. East, P.O. Box 19276, Springfield, IL 62794-9276. Virginia Wood's e-mail address and phone number are [Virginia.Wood@epa.state.il.us](mailto:Virginia.Wood@epa.state.il.us) and 217/785-1269. Jerry Willman's e-mail address and phone number are [Jerry.Willman@epa.state.il.us](mailto:Jerry.Willman@epa.state.il.us) and 217/524-6365.

**Illinois EPA web page.** Fact sheets are also available on the Illinois EPA web page: [www.epa.state.il.us/community-relations/fact-sheets.html](http://www.epa.state.il.us/community-relations/fact-sheets.html)

**Repositories.** The Illinois EPA has placed the full remedial investigation report, feasibility study, proposed plan and other project information in two locations. The first is the Ken-Rock Community Center, 3218 South 11<sup>th</sup> Street in Rockford. The second location is the Rock River Branch of the Rockford Public Library, 3128 South 11<sup>th</sup> Street in Rockford. The library's telephone number is 815/398-7514. Call for hours.

**Administrative Record File.** The administrative record file contains all documents upon which project decisions are based. This file is located in the Springfield Office of the Illinois EPA. To review the file, call for an appointment at 217/782-9878. A copy of the file will be on microfiche located at the main branch of the Rockford Public Library, 215 N. Wyman Street in Rockford.





Office of Community Relations  
1021 North Grand Ave. East P.O. Box 19276 Springfield, Illinois 62794-9276

## Proposed Plan Source Control Response Action

**Southeast Rockford Groundwater Contamination Superfund Site**  
Rockford, Winnebago County, Illinois

June 2001

### Public Comment Period

Illinois EPA will accept written comments on the Proposed Plan during a public comment period of **June 11, 2001 to August 20, 2001**.

### Public Hearing

Illinois EPA will hold a public hearing to explain the Proposed Plan and the alternatives presented. Oral and written comments will also be accepted at the hearing.

**Date: July 19, 2001**

**Time: 1:00 PM and 6:30 PM**

**Place: Brooke Road United Methodist Church**  
**1404 Brooke Road (just west of 11<sup>th</sup> Street)**  
**Rockford, Illinois**

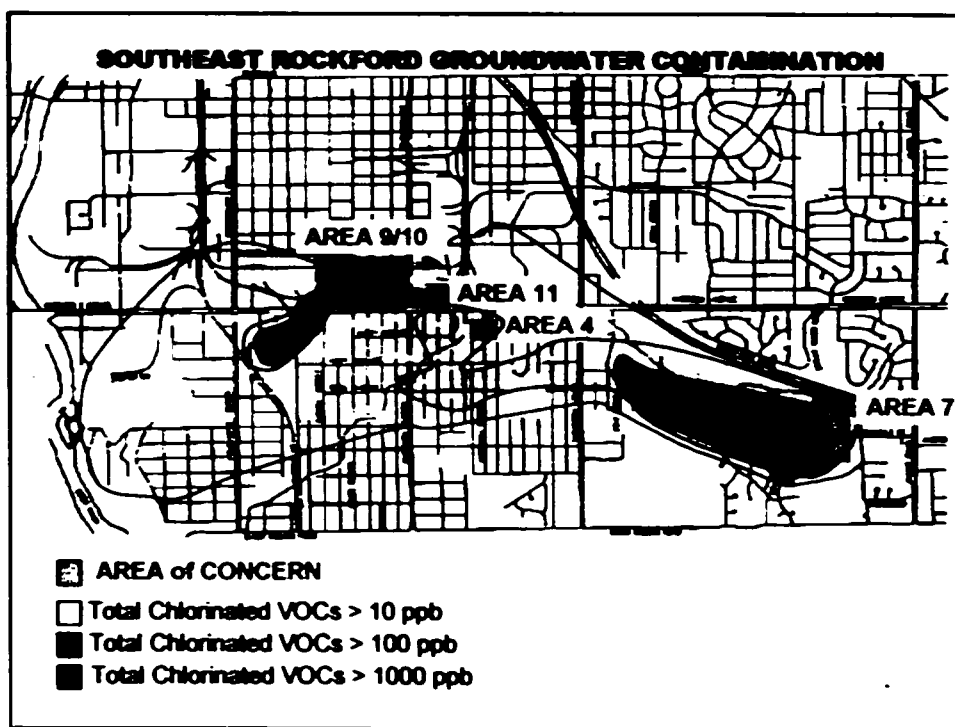
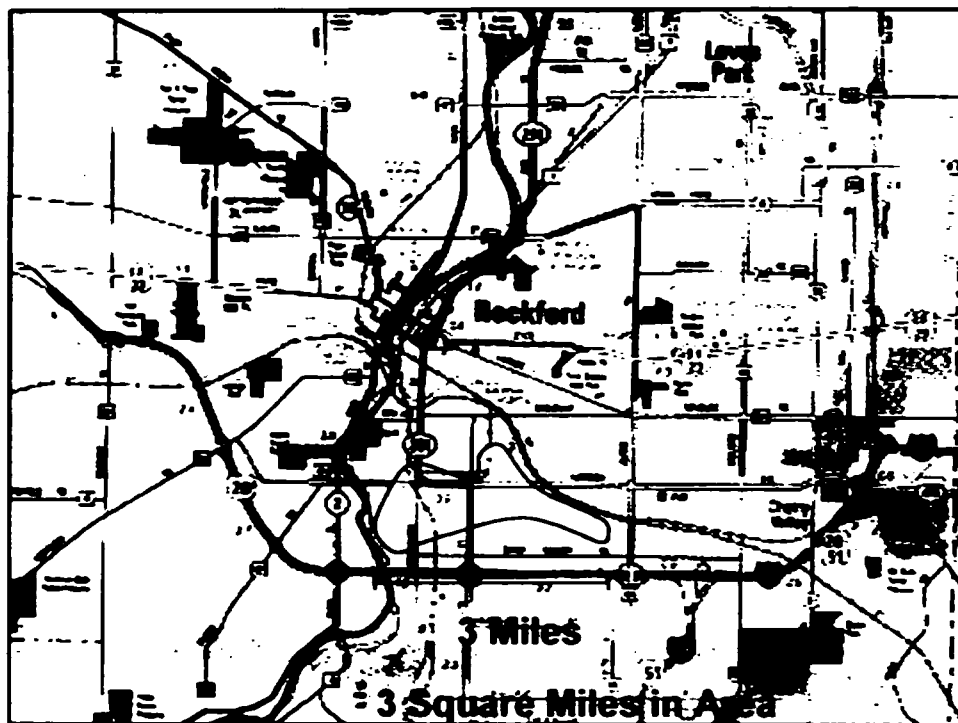
## INTRODUCTION

### Illinois EPA Announces Proposed Plan

The Illinois Environmental Protection Agency ("Illinois EPA") in consultation with the United States Environmental Protection Agency Region V ("USEPA") is proposing a *remedial action* that will address contaminated soil and *leachate* at four *source areas* within the *Southeast Rockford Groundwater Contamination Superfund Site* in Rockford, Illinois. The four source areas, identified as Area 4, Area 7, Area 9/10 and Area 11 are shown within Figure 1 on page 3.

This *Proposed Plan* identifies the cleanup alternatives and preferred option for the final remedy at the *site* and outlines the public's role in the selection of a remedy. The Illinois EPA, the lead agency for site activities, and the USEPA, the support agency for this remedial action, issue this document. Illinois EPA, in consultation with USEPA, will select a final remedy for the site only after the public comment period has ended and the information submitted during this time has been reviewed and considered.

Illinois EPA is issuing this Proposed Plan as part of its public participation responsibilities under section 117(a) of the *Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA or Superfund")*, as amended by the



*Superfund Amendments and Reauthorization Act ("SARA")* of 1986. This document summarizes information that can be found in greater detail in the July 25, 2000 *Remedial Investigation ("RI")* report and the September 5, 2000 *Feasibility Study ("FS")* report, as well as other documents contained in the *administrative record* file for this site. Illinois EPA and USEPA encourage the public to review these other documents in order to gain a comprehensive understanding of the site and Superfund activities that have been conducted there. The administrative record file which contains the information upon which the selection of the response action will be based, is available at the Rockford Public Library-Main Branch at 215 North Wyman in Rockford. The RI and FS reports are both available at either of the site Information Repositories located at the following locations:

Rockford Public Library-Rock River Branch  
3134 South Eleventh Street  
Rockford, Illinois

Ken Rock Community Center  
3218 South Eleventh Street  
Rockford, Illinois

Illinois EPA, in consultation with the USEPA, may modify the preferred alternatives or select another response action presented in this Plan and the FS report based on new information or public comments. Therefore, the public is encouraged to review and comment on **all** the alternatives identified here in the Proposed Plan. A glossary of terms is provided on page 86 of this proposed plan. Terms included within the glossary are printed in *italics* when being used for the first time.

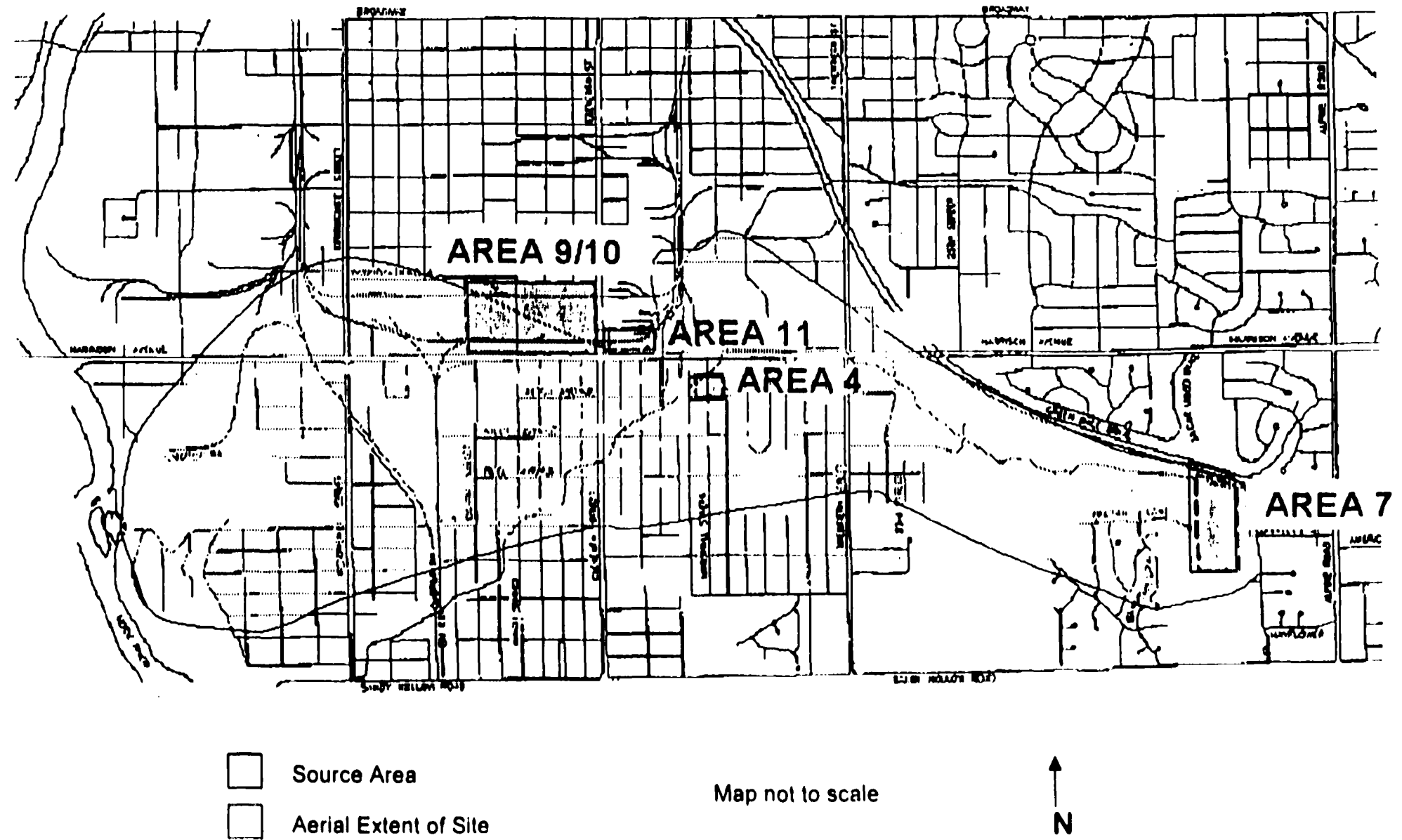
A fact sheet and public notice discussing this Proposed Plan are available at both Information Repositories.

## **SITE BACKGROUND**

### **SITE DISCOVERY AND REMOVAL ACTIONS**

The Southeast Rockford Groundwater Contamination Site, as originally proposed for the *National Priorities List* in June of 1988, was an area encompassing about 0.7 square miles in Rockford, Illinois. The 0.7 square mile area included residential and commercial properties. Presently, land use within the original site boundaries continues to be residential and commercial. The original boundaries of the site included an area of private wells bounded by Harrison Avenue to the north, Sawyer Road to the south, Twenty-First Street to the east and Eighth Street to the west. The current boundaries of the site are defined by the extent of *groundwater* contamination with concentrations of total *volatile organic compounds* ("VOCs") above 10 *parts per billion* ("ppb") (Illinois EPA, OU2 ROD 1,3). The site currently covers about 3 square miles. Figure 1 on page 3 identifies the site and its approximate boundaries.

Groundwater contamination is of major concern in Winnebago County as the county and the city of Rockford derive 100% of its water supply from groundwater through private, industrial, and municipal supply wells (Cobb).



Confirmation Report - Memory Send

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Telephone: 312/886-6613  
Fax Number: 312/886-0747  
Subject: Sanborn Rockford Groundwater SP Site  
Number of Pages: 3 (w/cover)

Comments: Best maps available of Area 7 (from EPA Region 5 April 2002 to IL EPA District 3) May 2001 (see Remedial Plan Documents)

Tom Turner  
U.S. EPA, ORC, R5



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL  
REGION 5

FACSIMILE TRANSMITTAL FORM

Date: January 13, 2003

Fax Recipient: FRANK BIROS, ESQ. / MARY REED, ESQ.

Dept./Agency: U.S. Department of Justice - ENRD/EES

Fax Number: 202/616-6584

Fax Sender: Tom Turner, ESQ.

Dept./Agency: U.S. EPA, ORC, Region 5

Telephone: 312/886-6613

Fax Number: 312/886-0747

Subject: Southeast Rockford Groundwater SF Site

Number of Pages: 3 (w/cover)

Comments: Best maps available of Area 7 (from: (p. 2  
Briefing Paper of April 2002 to IL EPA Director; (p. 3)  
May 2001 <sup>Groundwater</sup> Source Proposed Plan Document).  
Area

- Tom Turner  
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## **Source Area Seven**

### **General Description**

Source Area Seven (Area 7) is located in the most southeastern portion of the Southeast Rockford Superfund Site, northwest of the intersection of Alpine and Sandy Hollow Road. Specifically, Area 7 is located at the eastern end of Balsam Lane. Figure 3 on page 13 shows Area 7. The area contains Ekberg Park, a municipal park owned and maintained by the Rockford Park District. The park consists of open grassland, paved tennis and basketball courts, a children's playground, and a parking area. The park is zoned residential and the City's future plans are consistent with current use (Dust). Area 7 also includes privately owned agricultural land and wooded areas to the south and north of the park (Dust). Surface water drainage at Area 7 follows the area's topography which slopes downward from south to north. Two small valleys merge at the base of the hillside on the south of the area and feed into an unnamed creek that borders the north side of the site. Residential areas border the area to the east and west.

Elevated concentrations of VOCs in monitoring well number 106 (MW106) and aerial photographs showing ground surface excavations helped to identify Area 7 as an area of concern (CDM, 1995 RI 4-12). Part of Area 7 was once a gravel pit as shown on historical maps compiled by the United States Geological Survey. Examination of aerial photographs since the 1950's identifies areas of excavation and disturbed ground east of the end of Balsam Lane. In addition, U.S. EPA has received reports of illegal dumping in the area in the past. (CDM, 2000 RI 1-5).

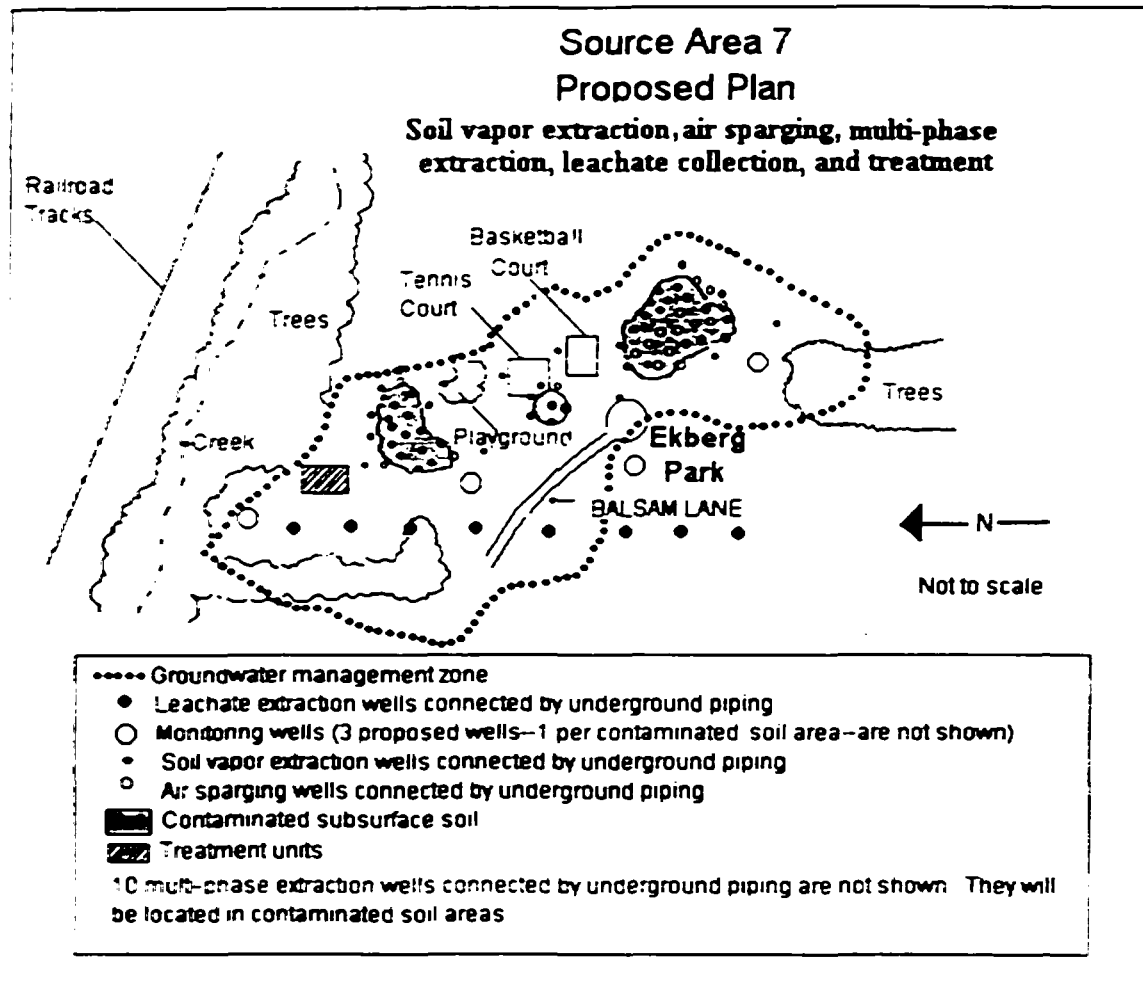
The geology at Area 7 consists of a heterogeneous combination of sands, silts, and clays that overlie dolomite bedrock. The heterogeneous nature of the geology at Area 7 correlates well with reports of past activities such as quarrying and land filling. Groundwater in both the surficial and bedrock aquifer flows in a northwest direction. Depth to groundwater ranges from 36 feet at MW135 located south of the park, to 13 feet in MW134 within the park, to less than 2 feet in MW105 near the creek. (CDM, 1995 RI Table 3-3)

### **Soil Gas and Indoor Air**

Soil gas surveys completed in May 1992 and February 1993 identified 1,1,1-TCA, PCE and TCE at levels ranging up to 3.8ppm, 1.1ppm, and .690ppm respectively (CDM, 1995 RI 4-14, and 17). The highest concentration for the sum of 1,1,1-TCA, PCE and TCE concentrations in soil gas was 5.59ppm obtained south of the basketball courts (CDM, 1995 RI 4-15). Soil gas data obtained in 1996 identified concentrations for the sum of 1,1,1-TCA, PCE and TCE ranging up to 460ppm in areas north of the children's playground; however, the 1996 data were generated using different procedures than those used in 1992 and 1993.

Residential air sampling in the vicinity of Area 7 identified levels of 1,1,1-TCA, TCE, and PCE, but at levels less than those found in homes near Area 4. As with Area 4, results

FIGURE 3



could not be directly correlated with groundwater contamination. Concentrations for most compounds were below that of indoor air studies conducted in other cities, and all were below health-based air guidelines in place in 1995 (CDM, 1995 RI 4-85, 90).

As with Area 4, U.S. EPA and Illinois EPA compared existing indoor air data from homes near Area 7 to the new indoor air screening values recently established by U.S. EPA Region 9. Upon re-evaluation of existing indoor air data from homes near Area 7, U.S. EPA and Illinois EPA have decided to conduct new indoor air analysis in homes near Area 7 to ensure that concentrations are below levels of concern. Illinois EPA plans to conduct the indoor air analysis during the design of potential remediation. Illinois EPA and U.S. EPA will begin planning the indoor air sampling program as soon as possible. Because of the complicated nature of indoor air sampling, actual fieldwork may not begin until sometime in 2001.



### Test Pits

Three test pits were excavated in Area 7 in June 1993. The test pits (large holes dug for investigation purposes) revealed metal cans, other metal objects, glass bottles, and miscellaneous trash. Soil samples taken from the test pits identified PCE ranging up to 22ppm, 1,1,1-TCA up to 4ppm, and up to 3ppm TCE. (CDM, 1995 RI 4-25). Table 2 located on page 15 identifies concentrations of contaminants of concern found in Area 7 soils and groundwater. Soil samples from each test pit were also analyzed for Toxicity Characteristic Leaching Procedure (TCLP). Concentrations in the TCLP soil sample from test pit 2 exceeded the TCLP regulatory level for TCE and PCE at concentrations of 1.1ppm and .7ppm respectively (CDM, 1995 RI 4-26).

### Surface Soil

Surface soil samples identified the presence of VOCs, PNAs, metals, and pesticides in surface soils. Surface soil concentrations of VOCs, which are the contaminants of primary concern, ranged up to .22ppm of 1,2-Dichloroethylene (1,2-DCE), .04ppm of 1,1,1-TCA, .14 of TCE, and .4ppm PCE (CDM, 1995 RI 4-32). One PNA, bis(2-ethylhexyl)phthalate was detected in all surface samples and could be either due to laboratory contamination or plastics disposed of at the site (CDM, 1995 RI 4-32). With the exception of bis(2-ethylhexyl)phthalate, only two surface soil samples contained concentrations of PNAs, most notably benzo(a)pyrene at levels up to .17ppm. All semi-volatile concentrations were below site-background. Metals concentrations in surface soils at Area 7 exceeded nationwide background concentrations for beryllium and thallium. Pesticide concentrations in surface soils are likely due to the agricultural activities in the area (CDM, 1995 RI 4-32).

### Sub-surface Soil

Twenty-four soil borings were conducted at Area 7 in order to characterize the nature and extent of contamination below ground surface in areas that were identified by soil gas and surface soil analysis (CDM, 1995 RI 4-43). The VOCs identified most often were TCA, PCE, and xylene. The VOC 1,1,1-TCA was found at concentrations of 360ppm from 4 -6 feet (depth 4 - 6 feet) in sample SB7-24A, and 380ppm (depth 15-17 feet) in sample SB7-8D (CDM, 1995 RI 4-43). PCE was identified at levels ranging up to 260ppm in sample SB7-8D. Xylene was identified at concentrations ranging up to 210ppm in SB7-10A (CDM, 1995 RI 4-43).



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Date: May 16, 2002  
Fax Recipient: MARY REED, ESQ. ENRD/EES  
Dept./Agency: U.S. Department of Justice  
Fax Number: 202/616-6584

Fax Sender: Tom Turner, ESQ.  
Dept./Agency: U.S. EPA, ORC, Region 5  
Telephone: 312/886-6613  
Fax Number: 312/886-0747

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Comments: Mary + Susan: Documents that you requested

Tom Turner  
U.S. EPA  
ORC - RS